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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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Dann P. McCreary

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NELLCOR PURITAN BENNETT LLC

ATTN: IP LEGAL

6135 Gunbarrel Avenue

Boulder, CO 80301

EXAMINER

PHAM, TAMMY T

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/508,916 | <b>Applicant(s)</b><br>MCCREARY ET AL. |  |
|                              | <b>Examiner</b><br>TAMMY PHAM        | <b>Art Unit</b><br>2629                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-13 and 36-38 is/are pending in the application.
- 4a) Of the above claim(s) 36-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. Claims 1-9, 14-35, has been cancelled. Claims 36-38 have been added. Claims 10-13, 26-38 are pending. Claims 10-13 are considered below.

### *Response to Arguments*

2. Applicant's arguments submitted on 18 May 2009 have been considered but are not persuasive.

### *§ 103 Rejection*

3. **In regards to independent claim 10**, Applicant submits that the amended claim language overcomes the prior art of record. In particular, that given the newly amended definition of a “*triangular zone*,” “*Sherbeck would fail to teach ‘the number and positioning of receivers being sufficient to form partially overlapping zone pairs such that the touch event lies within at least two zone pairs (Remarks 6-7).*” This is not persuasive.

4. The newly amended claim language recites that “*each triangular zone being defined by the portion of the display area between (a) a light beam path extending from a light emitting element at one end of a row of light emitting elements to a single light receiving element and (b) a light beam path extending from a light emitting element at the other end of the row a plurality of light emitting elements to the single light receiving element.*” Hence, according to the Applicant's definition of a “*triangular zone*,” Sherbeck teaches of at least four zone pairs as shown below. Hence, Sherbeck continues to read upon the claim language as currently stated.

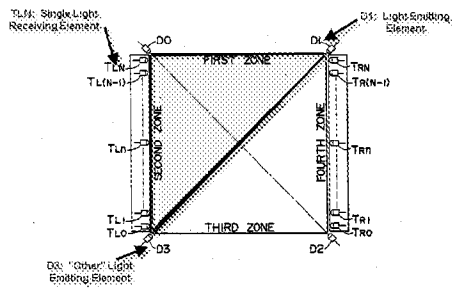


Figure 1: First Triangular Zone

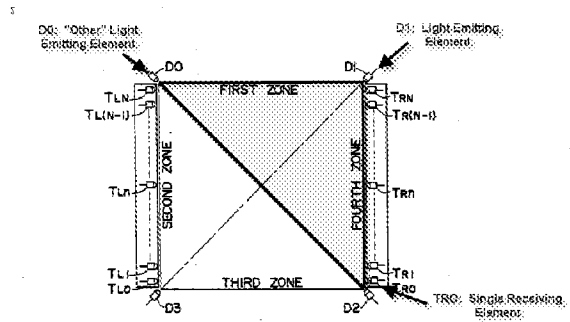


Figure 2: Second Triangular Zone

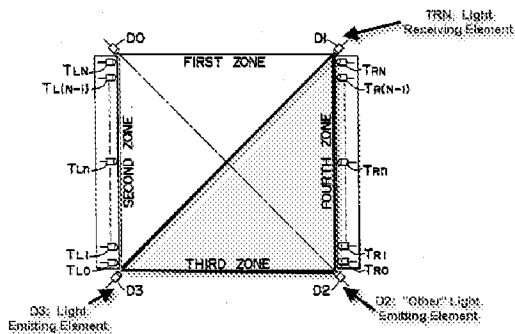


Figure 3: Third Triangular Zone

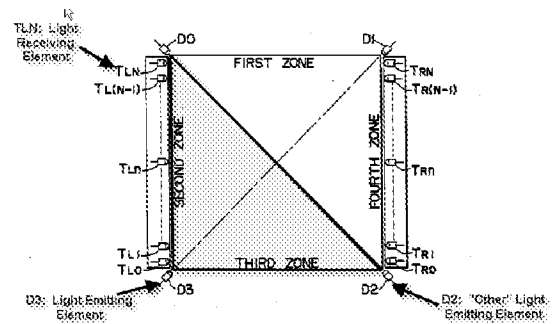


Figure 4: Fourth Triangular Zone

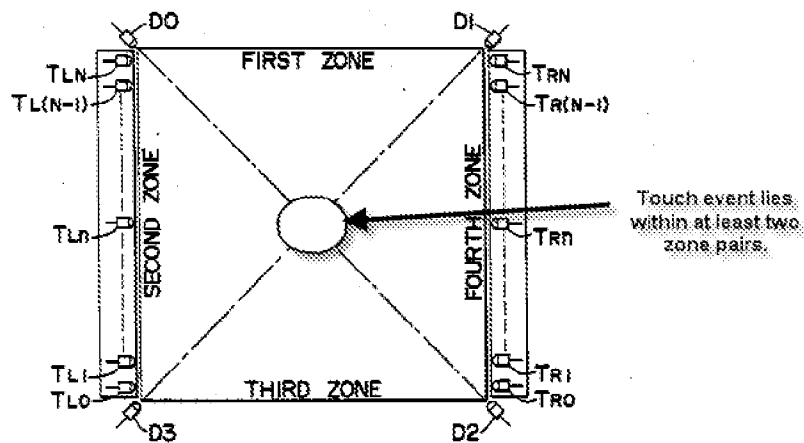


Figure 5: Touch Event Within Two Zone Pairs

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Sherbeck (US Patent No: 4,703,316).

6. **In regards to independent claim 10**, Sherbeck teaches of a method of determining the location of a touch event within a display area (Fig. 1) surrounded by a touch frame having a plurality of light emitting elements (Fig. 1, item D0-D3) and a plurality of light receiving elements (Fig. 1, items TLN-TRN) forming a plurality of triangular zones of light beam paths, each triangular zone being defined by the portion of the display area between (a) a light beam path extending from a light emitting at one end of a row of light emitting elements (Fig. 1, item D0) to a single light receiving (Fig. 1, item TRO) and (b) a light beam path extending from a light emitting element at the other end of the row of light emitting elements (Fig. 1, item D1) to the single light receiving element (Fig. 1, item TRO), the number and positioning of receivers (Fig. 1, item TRO) being sufficient to form partially overlapping zone pairs such that the touch event lies within at least two zone pairs (for example, if the touch event was in the middle of the display of Figure 1, as shown above in Figure 5), the method comprising:

7. monitoring each of the zone pairs for blockage of at least one light beam path; and
8. upon such blockage, calculating the location of the touch event associated with the blockage based on the slopes and the end points of at least two intersecting blocked light beam

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paths from a first zone pair and two intersecting blocked light beam paths from a second zone pair (Fig. 1, column 4, lines 45-70).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherbeck

(US Patent No: 4,703,316) in view of Casebolt (US Patent No: 5,355,149)

10. **As for claim 11**, Sherbeck fails to teach of randomly activate the light emitting elements, one at a time; and

11. monitor the output of each light receiving element associated with the activated light emitting element for an output indicative of a blocked light beam path.

12. Casebolt teaches of randomly activate the light emitting elements (Fig. 1, item 16), one at a time; and

13. monitor the output of each light receiving element (Fig. 1, item 18) associated with the activated light emitting element (Fig. 1, item 16) for an output indicative of a blocked light beam path (column 2, lines 55-60).

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14. It would have been obvious to one with ordinary skill in the art at the time the invention was made to combine the random activation of Casebolt with the touch frame of Sherbeck. This combination provides a touch screen display that compensates for the effect of changes in ambient light, temperature, component aging and environmental variations without overdriving the light emitters (Casebolt, column 2, lines 33-37).

15. **As for claim 12**, Sherbeck as modified by Casebolt above in claim 11, teaches that the processor (Casebolt, Fig. 2, item 32) is further programmed to activate the light emitting elements (Casebolt, Fig. 1, item 16) at pseudo random intervals (Casebolt, column 2, lines 58-64).

16. **As for claim 13**, Sherbeck as modified by Casebolt above in claim 11, teaches that the processor (Casebolt, Fig. 2, item 32) is further programmed to activate the light emitting elements (Casebolt, Fig. 1, item 16) in a pseudo random sequence (Casebolt, column 2, lines 58-64).

***Conclusion***

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

18. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammy Pham whose telephone number is (571) 272-7773. The examiner can normally be reached on 8:00-5:30 (Mon-Fri).

20. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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21. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TP  
18 August 2009

*Tammy Pham*  
/Tammy Pham/  
Examiner, Art Unit 2629

/Sumati Lefkowitz/  
Supervisory Patent Examiner, Art Unit 2629